

### REMARKS

Claims 1 to 17 are pending. Claims 1, 12 and 15 have been amended, and claim 16 has been withdrawn from consideration. Basis for the amendments are found, among other places, in the specification at page 2, first paragraph, pages 3-4, and page 11. Cancellation of the words “and which may be ... 7 weight percent” is for purposes of simplifying the claims. Entry of the amendments and reconsideration of the application are respectfully requested.

The rejection of claims 1-11, 15, and 17 under 35 USC § 112, first paragraph has been avoided by the amendment to claims 1 and 15. As amended, the claims now require that the proviso in the claims just applies to volatile non-cyclic siloxanes, as suggested by the Examiner.

Claims 1-5, 7-11, 15 and 17 have been rejected under 35 U.S.C. 103(a) as obvious over Garabedian U.S. Publication 2004/0144406. This rejection is avoided in part by the claim amendments and is traversed in part.

At Office Action page 3, the Examiner has said that Garabedian discloses 0.01 – 1% oxide nanoparticles (which the Examiner calls an abrasive). He has also said that Garabedian teaches that his composition includes 1 percent GRAS material, such as silicon dioxide (which the Examiner says is an abrasive). The Examiner has further stated that, because Garabedian uses “about” the maximum 2% amount mentioned of both silicon dioxide and oxide nanoparticles reads on the minimum amount in the applicants’ claimed range of 3 to 50 percent abrasive. With all due respect, these assertions are incorrect.

Although oxide particles can be abrasive particles, the oxide particles in Garabedian are not abrasive particles. Garabedian is a teaching regarding carpet cleaning, and there is no logical reason to include abrasives in a carpet cleaning composition. In his discussion of nanoparticles, at paragraph [149], Garabedian states that his composition reduces damage to abrasion. Therefore, the assertion that Garabedian’s oxide nanoparticles is not reasonable, and the Examiner is requested to support his assertion that Garabedian would use an abrasive form of nanoparticles in a carpet cleaning composition (inspite of his statement that it is good to reduce damage by abrasion) or withdraw the assertion.

Although silicon dioxide can be an abrasive, it is not necessarily an abrasive. It is also commonly used as a filler in many articles such as polymers and paper. The context in which Garabedian mentions silicon dioxide (paragraphs [156] – [158]) is in his discussion of GRAS

materials which originate from paper or paperboard stock materials. The silicon dioxide in paper would most likely be a filler, and there would be no reason to use silicon dioxide abrasive in paper. Therefore, the Examiner's assertion that the silicon dioxide mentioned in Garabedian is an abrasive is not reasonable, and he is asked to support his assertion that the silicon dioxide disclosed in Garabedian is an abrasive form or withdraw the assertion.

The Examiner has stretched the maximum total amounts of nanoparticles and silicon dioxide mentioned in Garabedian from 2% to 3% based on the word "about". However, Garabedian only uses "about" with respect to the type of GRAS materials that include silicon dioxide (paragraphs [156]-[0158]). The amount of nanoparticles is not qualified by "about" (see Garabedian paragraph [0141]). Therefore, in order to reach the minimum 3% of the presently claimed range, requires choosing SiO<sub>2</sub> from the list in Garabedian paragraphs [0157] and [0158] making it abrasive (despite the fact that Garabedian indicates it is used in paper or paperboard which would not indicate an abrasive) doubling the maximum 1% amount mentioned (based on Garabedian's use of "about") and adding the SiO<sub>2</sub> to the maximum 1% amount of nanoparticles. The case (*In re Ayers*, 154 F.2d 182, 69 USPQ 109) on which the Examiner relies for stretching this amount up to 3% held that "about 8%" in a reference could be interpreted, with some tolerance, to make "at least about 10%" obvious. Thus, Ayers allowed stretching the 8% in the prior art 25 percent higher to reach 10% when both the reference and the claim at issue used "about". In the current rejection, the Examiner has doubled Garabedian's 1%, and the claim at issue does not have "about" before the 3% limitation. The tolerance allowed by the case law would not allow a doubling of the Garabedian disclosed amount in this case.

Based on the above facts, Garabedian lacks the requirement of the present claims for 3 to 50 weight percent abrasive particles. It would not have been obvious to a person of ordinary skill to modify Garabedian by adding 3 to 50 percent abrasive particles, especially in light of the facts that Garabedian says one ought to reduce damage from abrasion, and there is no logical reason to deliberately include abrasive grit in a carpet cleaning composition.

At Office Action page 4, the Examiner has said, "Finally, it is prima facie obvious to combine two or more materials (two or more GRAS materials) disclosed by the prior art to form a third material (combination of GRAS materials) that is to be used for the same purpose." It is not

clear to what this statement refers, since there is no apparent combination of two GRAS materials mentioned. The examiner is requested to explain this statement or withdraw it.

Claims 1-4, 6-13 and 17 have been rejected under 35 USC § 103(a) as obvious over John U.S. Patent 5,316,692 in view of Hawley's Condensed Chemical Dictionary, Twelfth Edition, page 918-919. This rejection is traversed.

The Examiner has taken the position (Office Action pages 5 and 8) that, although polydiorganosiloxanes are present in John, this material can be volatile absent evidence to the contrary and since applicants do not define the extent of non-volatility. The claims have been amended to recite that non-volatile silicon materials have a boiling point of at least 250°C; so that, the extent of non-volatility is specified. To the extent the claim amendments do not avoid the rejection, the assertion by the Examiner is specifically traversed. There is evidence to the contrary of the Examiner's assertion.

First, attached are five pages from the Beilstein database online containing information about silicones within John's formula for polydiorganosiloxanes (B)  $(\text{CH}_3)_3\text{SiO}[\text{CH}_3(\text{R})\text{SiO}]_x[(\text{CH}_3)_2\text{SiO}]_y\text{Si}(\text{CH}_3)_3$  in which R, x and y are defined in John columns 1-2. John's invention uses the combination of dimethylsiloxanes (A) and polydiorganosiloxanes (B) to yield a scouring cleanser that leaves hard surfaces (such as bath tubs, was basins and toilets) glossy even after rinsing (see John Example bridging columns 4 and 5). Beilstein shows two polydiorganosiloxanes within the scope of John's (B) materials which are at or near the lowest molecular weight of molecules within John's polydiorganosiloxanes. For heptamethylhexyltrisiloxane, the boiling point is said to be 275.0°C +/-23.0°C, and for heptamethyloctyltrisiloxane, the boiling point is said to be 308.6°C +/-25.0°C. For both siloxanes, lower boiling points are also reported, but they are at reduced pressures, not atmospheric pressure which is the normal pressure for reporting boiling points.

Second, as pointed out at page 7 of applicants' last response, in John's examples (columns 4-5) only B – D (the only examples made with polydiorganosiloxanes) demonstrated good gloss. The implication is that the polydiorganosiloxanes stayed on the test surface to lend a glossy appearance. John Example A, was made with just  $(\text{Me}_2\text{SiO})_4$ , a volatile siloxane, and gloss was only neutral. Therefore, evidence to believe that John's polydiorganosiloxanes (B) are

non-volatile exists. Under MPEP 2144.03, applicant asks that the Examiner provide authority for his assertion that John's polydiorganosiloxanes can be volatile or withdraw the assertion.

With regard to the lubricant required by the rejected claims, Office Action page 5 states that Hawley's Condensed Chemical Dictionary discloses that pine oil is known to be a disinfectant and fragrance, and, since John teaches that her composition can contain disinfectant and perfume, pine oil is within the scope of John's additives making the lubricant obvious. This position requires acceptance that, out of all possible disinfectants and perfumes one might select, given the disclosure of John and the fact that John mentions no particular disinfectant or perfume and does not mention lubricant at all, the skilled person would select pine oil which also happens to be a lubricant.

It is not obvious to eliminate all non-volatile silicones from John since she requires the polydiorganosiloxanes. Nor is it obvious to include a lubricant since she does not teach the inclusion of lubricant in her hard surface scouring compositions. Lubricant is required in the rejected claims, and the allegedly obvious way in which the Examiner contends the skilled person would modify John's teaching is by using pine oil as a disinfectant or fragrance, even though they are optional in John's teaching. John combined with the dictionary does not make the amended claims obvious.

Claims 5 and 14 have been rejected under 35 USC 103(a) as obvious over John in view of Hawley's Condensed Chemical Dictionary and further in view of Martin US Patent 5,264,027. This rejection is traversed.

Martin teaches detergent resistant compositions for such uses as car wax (col. 9, ll. 11-14). The hydrocarbonoxy end-blocked branched organopolysiloxanes required in Martin's compositions (col. 2, ll. 12 – 14 and 22-68 and col. 4, ll. 62-65) are non-volatile (see applicants' response of August 31, 2006, p. 7).

The compositions of the amended claims are finishing compositions used in refinishing vehicles in body shops. Such finishing compositions are to remove defects in a paint job such as scratch marks. The inventive finishing compositions leave no oily residue that could harm a paint job (specification page 1, lines 27-28, page 2, lines 8-15 and 25-26, page 3, lines 1-2 and lines 21-25 and page 8, lines 28-31); avoid the phenomenon known as "fish-eye" (specification page 4, lines 1-4, page 9, lines 22-25, and page 23, line 4 – page 24, line 15); and avoid other

problems associated with non-volatile siloxanes (specification p. 3, ll. 7-12). The presence of nonvolatile siloxanes in both John and Martin is contrary to the purpose of the presently claimed finishing compositions.

Martin has been cited for his disclosure of a hydrocarbon solvent that he mixes with his alkoxy end-blocked organopolysiloxane. The addition of Martin to John and Hawley's Dictionary does not provide the missing elements discussed above, namely a lubricant selected from the group stated in claims 1 and 12, and the required absence of non-volatile silicones. Martin is contrary to the obviousness of the rejected claims because he requires the use of non-volatile siloxanes. It is not proper to use references by selecting just the right bits and pieces from them in order to assemble the invention of a pending claim; while, ignoring the rest of the disclosure in the references, which is unfavorable to the examiner's contention of obviousness.

Claim 15 has been rejected under 35 U.S.C. 103(a) as obvious over John in view of Hawley's Condensed Chemical Dictionary. This rejection is traversed

The method of claim 15 now requires that no non-volatile silicone materials be used and a lubricant (selected from oils, oleic acid, glycerol and combinations thereof) is included in the mixture with water. The process taught in John has neither of these features. In order to have the process of claim 15, one would have to eliminate John's non-volatile polydiorganosiloxanes and use a lubricant from the Markush group of claim 15 when no teaching exists within John to do so. To use Hawley's Condensed Chemical Dictionary to provide a pine oil lubricant (because it is also a fragrance or disinfectant) in John's formulation would amount to hindsight.

The bottom of Office Action page 7 states that the nanoparticles of Garabedian "are abrasives". This statement is an assertion which is contrary to reason. The Examiner has provided no logical reason why one would put abrasive in a carpet cleaning composition when Garabedian is a teaching about carpet cleaning, and his stated purpose for including nanoparticles is for their hydrophilic properties and reduce damage to abrasion (Garabedian paragraphs [0149] – [0150]). A person would not intentionally put grit into one's carpet.

Dutta US 2003/0047816 has been cited to support the Examiner's position that nanoparticles will function as an abrasive. The part of Dutta to which the Examiner has referred (paragraph [0059]) describes the use of semiconductor nanoparticles in a polishing slurry to polish metal or ceramics and to polish semiconductor wafers in a chemical-mechanical polishing

apparatus. Although Dutta may establish nanoparticles as useful in some abrasive applications, it does not make it obvious to modify Garabedian by inclusion of abrasive nanoparticles.

Garabedian teaches away from using abrasive and instead teaches use nanoparticles that are negatively charged, having a high concentration of surface bound water, to provide the benefit of anti-spotting (see Garabedian paragraphs [0149] and [0150]).

Referring to Office Action page 8, near the bottom, the Examiner has restated his position that the silicones in John are volatile, and applicants have no shown evidence to the contrary. This issue has been addressed above. John requires organosiloxanes (A) and (B), the organosiloxanes (A) admittedly overlapping the volatile siloxanes recited in present claim 1. However, John's polydiorganosiloxanes (B) are non-volatile contrary to the present claims requirement for no non-volatile silicon materials, and evidence to the contrary of the Examiner's assertion has been presented above.

Although the examiner is correct regarding the claim term "comprising" in that it allows for the presence of other volatile silicones, it does not allow for the presence of non-volatile silicones specifically excluded by the claims. Contrary to the sentence bridging Office Action pages 8 and 9, John does not realistically teach the exclusion of non-volatile silicones from her composition, in light of the discussion above regarding her polydiorganosiloxanes. She requires both organosiloxane components (A) and (B).

The first full sentence on Office Action page 9 says that applicants do not argue the examiners obviousness reasons with respect to the rejection that uses the John and Martin references. In reviewing the Examiners last office action (dated November 11, 2006) there is no rejection in view of only John and Martin. There is a rejection over John in view of Terae (828) and Martin (office action p. 5), and applicants previous response addressed that rejection at page 8. All rejections stated in the November 11, 2006 office action were discussed and rebutted in applicants' prior response, and the Examiner is requested to explain the first full sentence at present office action page 9. Applicants do not acquiesce in any of the previous or current rejections.

In view of the foregoing, claims 1-15 and 17, as amended, are in condition for allowance. Withdrawal of the rejections under 35 USC 103(a) and 112 is requested; rejoinder of claim 16 is requested; and a Notification of Allowability is solicited. If any issues or questions remain, the

resolution of which the Examiner feels would be advanced by a conference with applicant's attorney, he is invited to contact such attorney at the telephone number noted below.

Respectfully submitted,

October 29, 2007  
Date

By: Douglas B. Little  
Douglas B. Little, Reg. No.: 28,439  
Telephone No.: 651-733-1501

Office of Intellectual Property Counsel  
3M Innovative Properties Company  
Facsimile No.: 651-736-3833